BEDROCK GEOLOGIC MAP OF THE OLD LYME QUADRANGLE, NEW LONDON AND MIDDLESEX COUNTIES, CONNECTICUT

Walsh and Scott in 2002

Digital compilation by Walsh,

assisted by Aaron Satkoski

Geochronology by Aleinikoff

and 1 percent apatite. Amphibolite layers are 0.3 to 2 m thick,

commonly have pinstripe layering, and are discontinuous. (3) West of

the Connecticut River, poorly to well-layered, moderately foliated,

medium-grained, dark-greenish-gray calc-silicate gneiss consists of

equigranular hornblende and diopside, plagioclase, quartz, and

approximately 37 percent quartz, 44 percent plagioclase, 8 percent

biotite, 5 percent diopside, 5 percent hornblende, and trace amounts of

opaque Fe-Ti oxides, calcite, and apatite. Unit mapped previously by

Lundgren (1967) and Rodgers (1985) as Tatnic Hill Formation

occasional pyrite interlayered with more felsic gneiss. One mode has

light-pink, well-foliated, massive, medium-grained, slabby weathering

hornblende-biotite-K-feldspar-quartz-plagioclase granodiorite orthogneiss.

Typical outcrops are homogeneous and show very little compositional

segregation but are well foliated. Contains approximately 20 to 30

percent quartz, 5 to 30 percent alkali feldspar (orthoclase and

microcline), 30 to 50 percent plagioclase, 4 to 9 percent biotite, and

trace to 3 percent hornblende, and trace amounts of garnet, opaque

Fe-Ti oxides, apatite, and zircon. Locally, where the alkali feldspar

forms close to one-third of the rock, the plagioclase is myrmekitic and

the alkali feldspar is K-feldspar. Thin (15-20 cm thick), discontinuous

Geology mapped by Armstrong in 2001 and by

INDEX TO MAPPING



Base from U.S. Geological Survey, 1958 (photorevised 1970)

Hydrography compiled from U.S. Coast and Geodetic Survey

10,000-foot grid ticks based on Connecticut coordinate system

CONTOUR INTERVAL 10 FEET

NATIONAL GEODETIC VERTICAL DATUM OF 1929

DEPTH CURVES AND SOUNDINGS IN FEET—DATUM IS MEAN LOW WATER

SHORELINE SHOWN REPRESENTS THE APPROXIMATE LINE OF MEAN HIGH WATER

THE MEAN RANGE OF TIDE IS APPROXIMATELY 3.5 FEET

000-meter Universal Transverse Mercator grid ticks,

Polyconic projection. 1927 North American Datum

Charts 214 and 215 (1957)

zone 18, shown in blue

Figure 1.—Generalized tectonic map of eastern Connecticut showing the location of the Old Lyme quadrangle

and distribution of terranes and major Alleghanian domes and basins (modified from Goldsmith, 1985; Rodgers,

1985; Walsh and others, 2007). Upper left inset map shows the distribution of the Gander and Avalon terranes.